ABSTRACT

Methods and apparatus compress data, comprising an In-phase (I) component and a Quadrature (Q) component. Statistical characteristics of the data are utilized to convert the data into a form that requires fewer bits in accordance with the statistical characteristics. The data may be further compressed by transforming the data and by modifying the transformed data in accordance with a quantization conversion table that is associated with the processed data. Additionally, redundancy may be removed from the processed data with an encoder. Subsequent processing of the compressed data may decompress the compressed data in order to approximate the original data by reversing the process for compressing the data with corresponding inverse operations. Interleaved I and Q components can be processed rather than separating the components before processing the data. The processed data type may be determined by providing metadata to retrieve the appropriate quantization table from a knowledge database.